

Florida's Early Hearing Detection and Intervention (EHDI) Program: Use of 2015-2016 Data to Aid in Evidence-Based Practice

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Hearing Loss/Impairment

- Hearing loss is the most common birth defect.
- In the United States, 1 to 3 babies out of 1,000 are born with permanent hearing loss/impairment each year.
- In Florida, an average of 9,000 babies do not pass their initial hearing screening. Out of the 9,000, approximately 300 babies are diagnosed with a permanent hearing loss or impairment yearly.



What is EHDI?

- Early Hearing Detection and Intervention (EHDI) is a national program that was first authorized by Congress in 2000.
- The goal of this program is to enhance language, communication, cognitive, and social skill development, in order for the newborn to be successful in school and other lifelong endeavors.
- EHDI programs include:
 - Screening (the initial test of infants for hearing loss)
 - Audiological Diagnostic Evaluation (to confirm hearing loss)
 - Early Intervention (hearing aids, cochlear implants, sign language, speech therapy, etc.)

1-3-6 Goals

Hearing loss can affect a child's ability to develop speech, language and social skills. The earlier that intervention is provided, the better chance a child has at reaching their full potential.

The Joint Committee on Infant Hearing (JCIH) recommends:

- Hearing screening by 1 month of age.
- Hearing loss diagnosed by 3 months of age.
- Enrolling in an Early Intervention (EI) Program by 6 months of age.
 - New guidance from the JCIH, released in October 2019, recommends that states that are successful with meeting the 1-3-6 goal, move towards meeting a 1-2-3 goal.

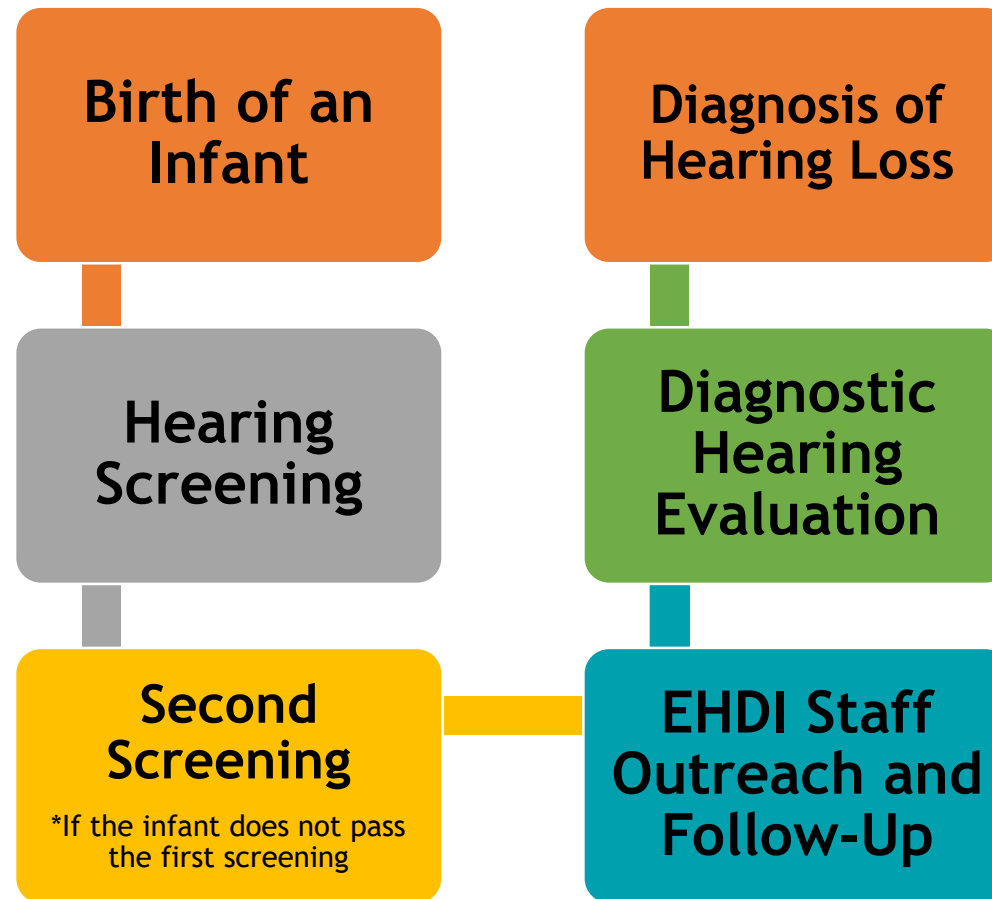


Florida EHDI Follow-up Program Basics

- The Newborn Hearing Screening Follow-up/EHDI Program attempts to obtain rescreening and diagnostic information on babies and toddlers to 3 years of age who did not pass their initial screening.
- The Program's primary objective is to diagnose hearing loss early in a child's life in order to provide the opportunity for early intervention and positive outcomes.




EHDI Process from Birth to Diagnosis




Diagnosis to Early Intervention

Once a diagnosis of hearing loss is reported to EHDI staff, results are entered in the EHDI data system and the baby's record is updated to reflect the permanent hearing loss diagnosis.



EHDI staff assembles a packet of educational materials that are hearing loss-specific to send to the baby's parent(s) and/or caregivers.



Additionally, EHDI staff makes a referral to the Local Early Steps (LES) office by fax, as well as through a secure email system.

Study Objectives

1. Examine the Florida EHDI Program's outcomes in accordance with meeting JCIH recommendations.
2. Determine the distribution of Florida's 2015-2016 infant population in relation to the location of Local Early Steps (LES) offices.
3. Assess areas of opportunity, where the program may be able to aid in improving outcomes for deaf or hard of hearing (D/HH) infants in the State of Florida.

Methodology

- The Centers for Disease Control and Prevention's (CDC) Hearing Screening and Follow-up Survey (HSFS) 2015-2016
 - CDC HSFS definitions used for Screening, Diagnosis and Intervention data
 - 1-3-6 Goals
- Spatial analysis was conducted to determine the distribution of Florida's 2015-2016 infant population in relation to Local Early Steps (LES) offices.
- Software:
 - Microsoft Excel
 - ArcGIS Pro
 - FLHealthCHARTS data query tool

Results

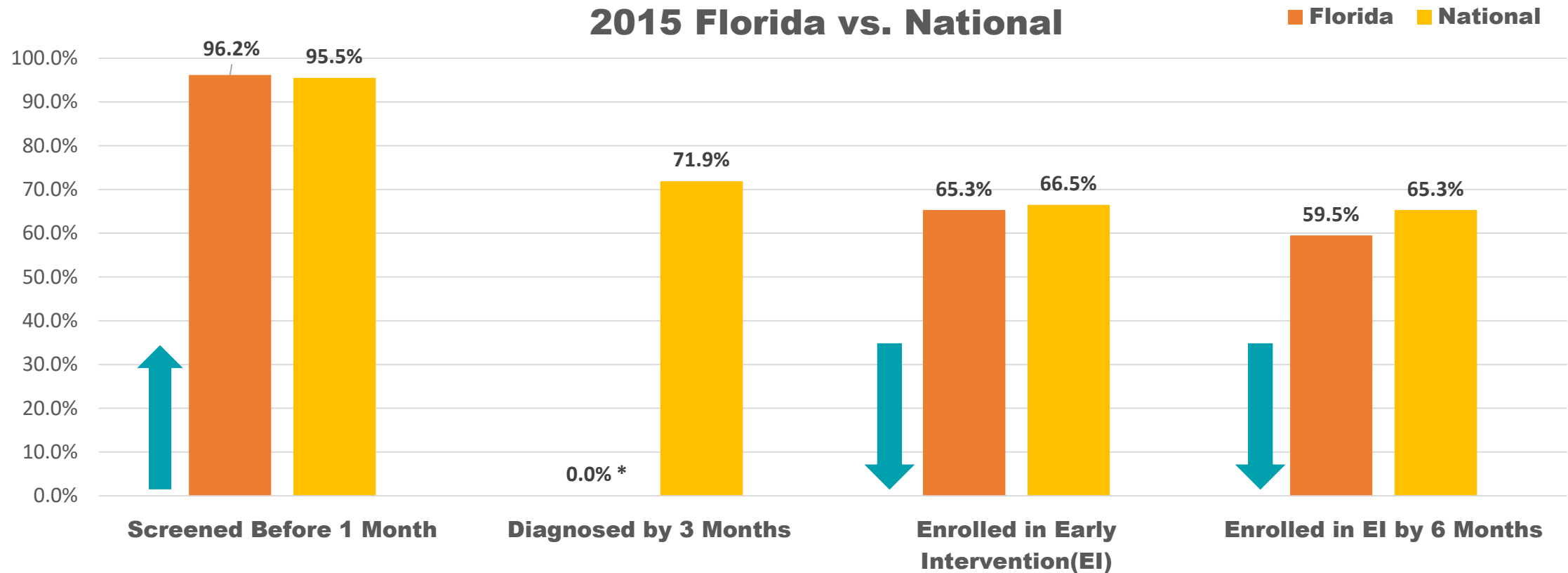


Florida EHDI Program Statistics

Data Year	Florida EHDI Program Statistics & 1-3-6 Goal Data Points											
	Screening Data				Diagnostic Data				Intervention Data			
	Total Births	Total Screened (N/%)	Total Screened By 1 month (N/%)	Total LFU/LTD (N/%)	Total Screen Not Passed (N)	Total Documented Diagnosis (N/%)	Total Diagnosed By 3 months (N/%)	Total LFU/LTD (N/%)	Total Diagnosed Permanent HL (N)	Total Enrolled in EI (N/%)	Total Enrolled in EI By 6 months (N/%)	Total LFU/LTD (N/%)
2015	224,273	217,142/ 96.8%	208,785/ 96.2%	3,378/ 1.5%	8,346	7,449/ 89.3%	*	601/ 7.2%	291	190/ 65.3%	113/ 59.5%	56/ 19.2%
2016	225,018	218,376/ 97%	207,125/ 94.8%	2,603/ 1.2%	9,341	8,335/ 89.2%	7,223/ 86.7%	677/ 7.2%	287	193/ 67.2%	129/ 66.8%	67/ 23.3%

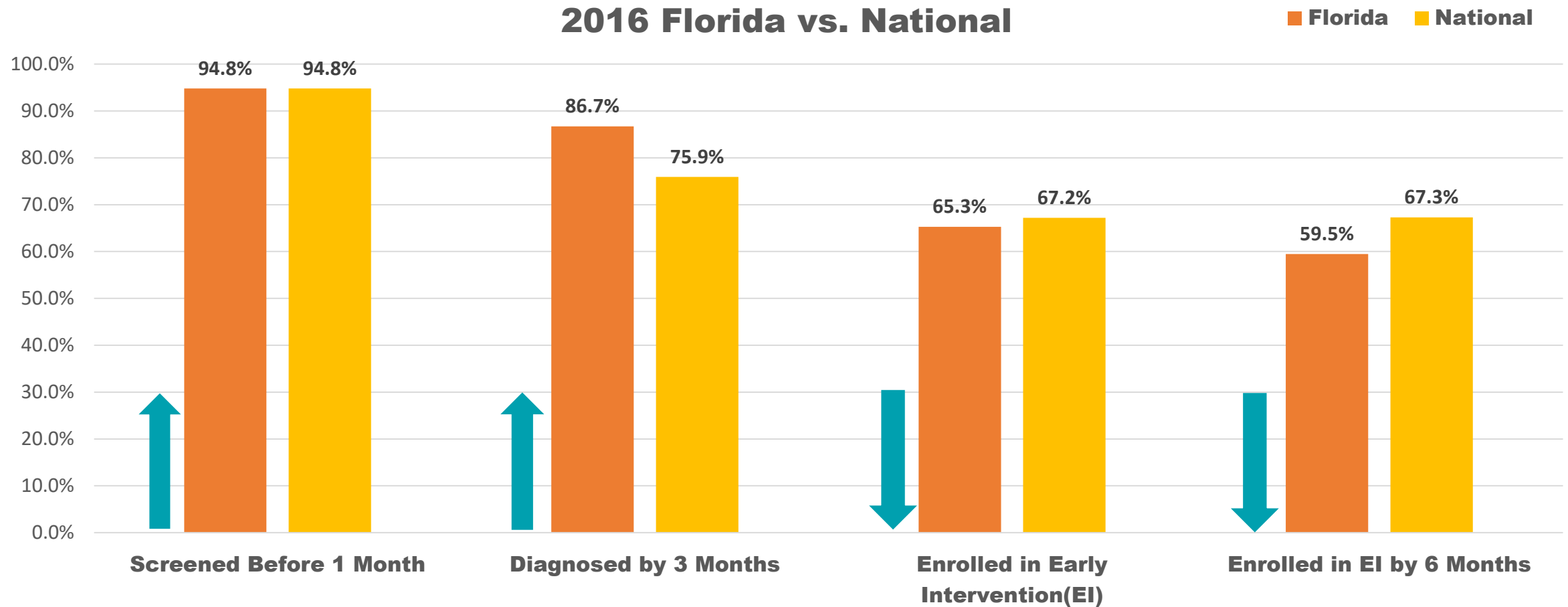
*In 2015, Florida's EHDI Information System (EHDI-IS) was not able to calculate the number of infants diagnosed with no hearing loss before 3 months of age due to a software update. This figure was not reported to CDC.

National Comparison for 1-3-6 Goals



*In 2015, Florida's EHD Information System (EHD-IS) was not able to calculate the number of infants diagnosed with no hearing loss before 3 months of age due to a software update. This figure was not reported to CDC.

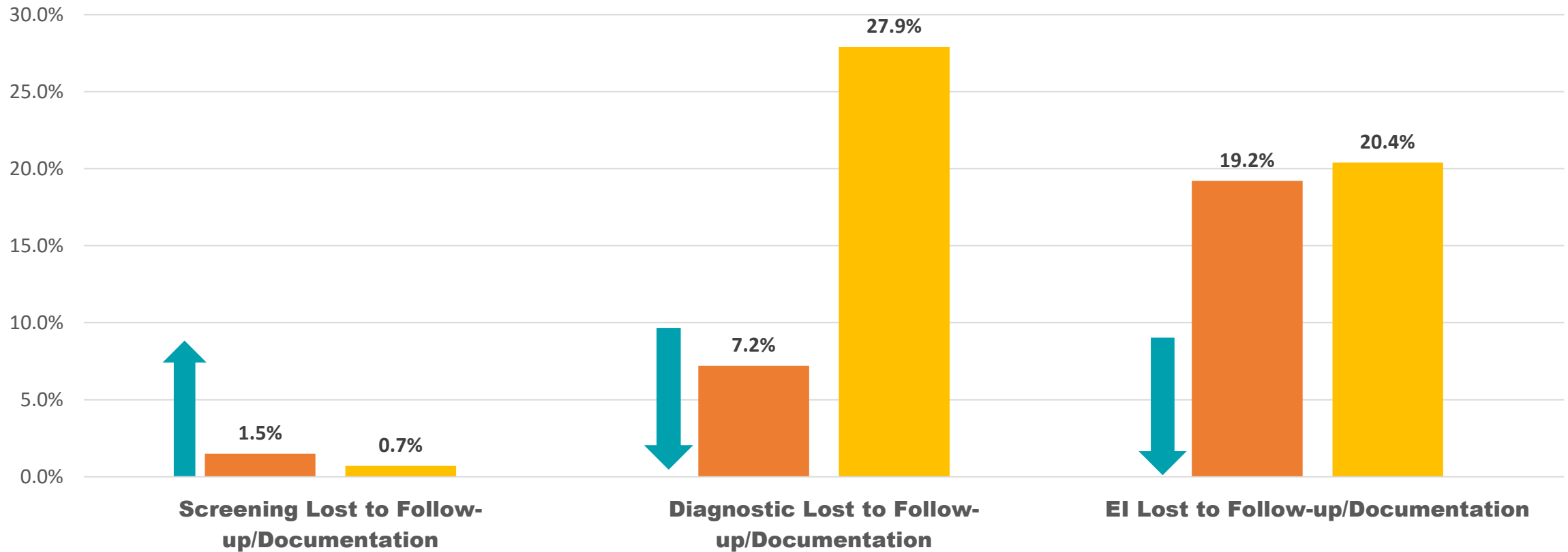
National Comparison for 1-3-6 Goals



National Comparison for Lost to Follow-up/Lost to Documentation (LFU/LTD)

2015 Florida vs. National

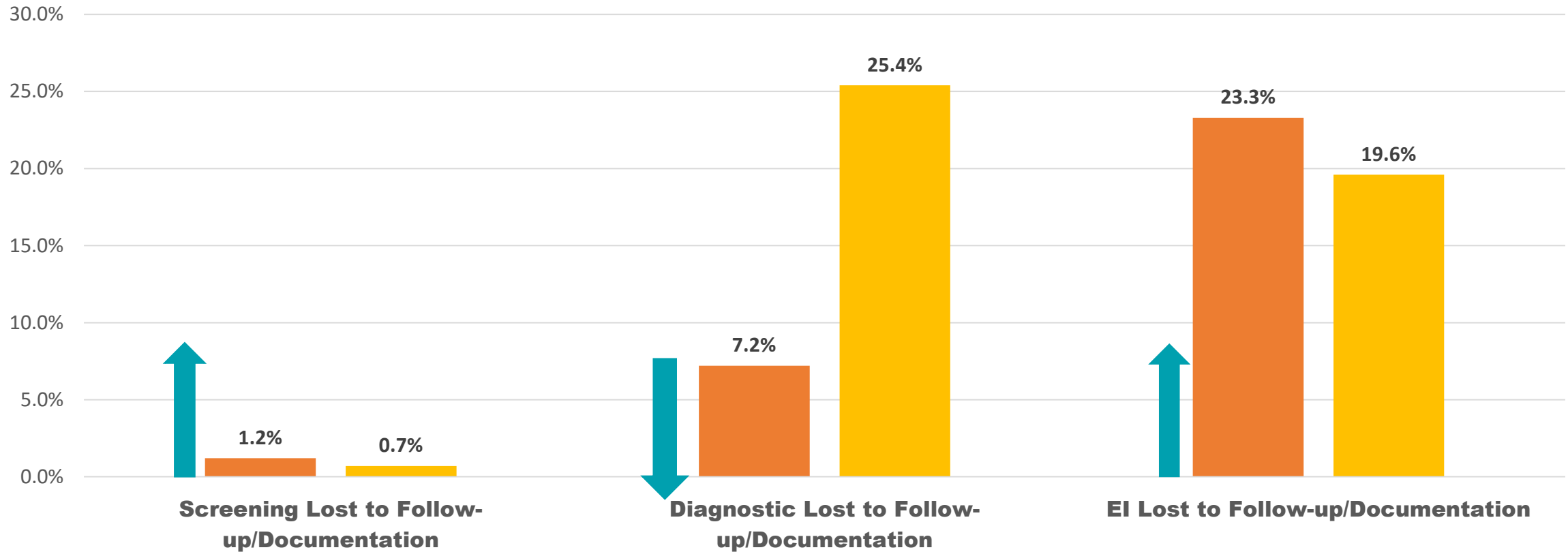
■ Florida ■ National



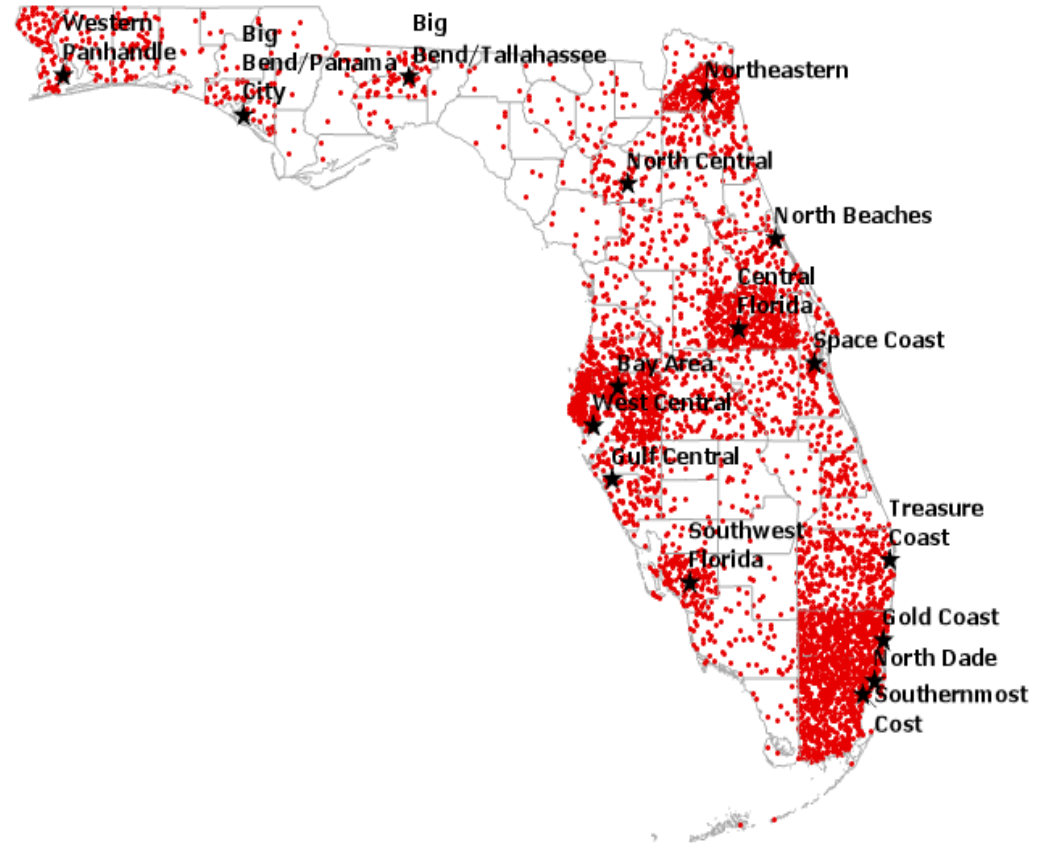
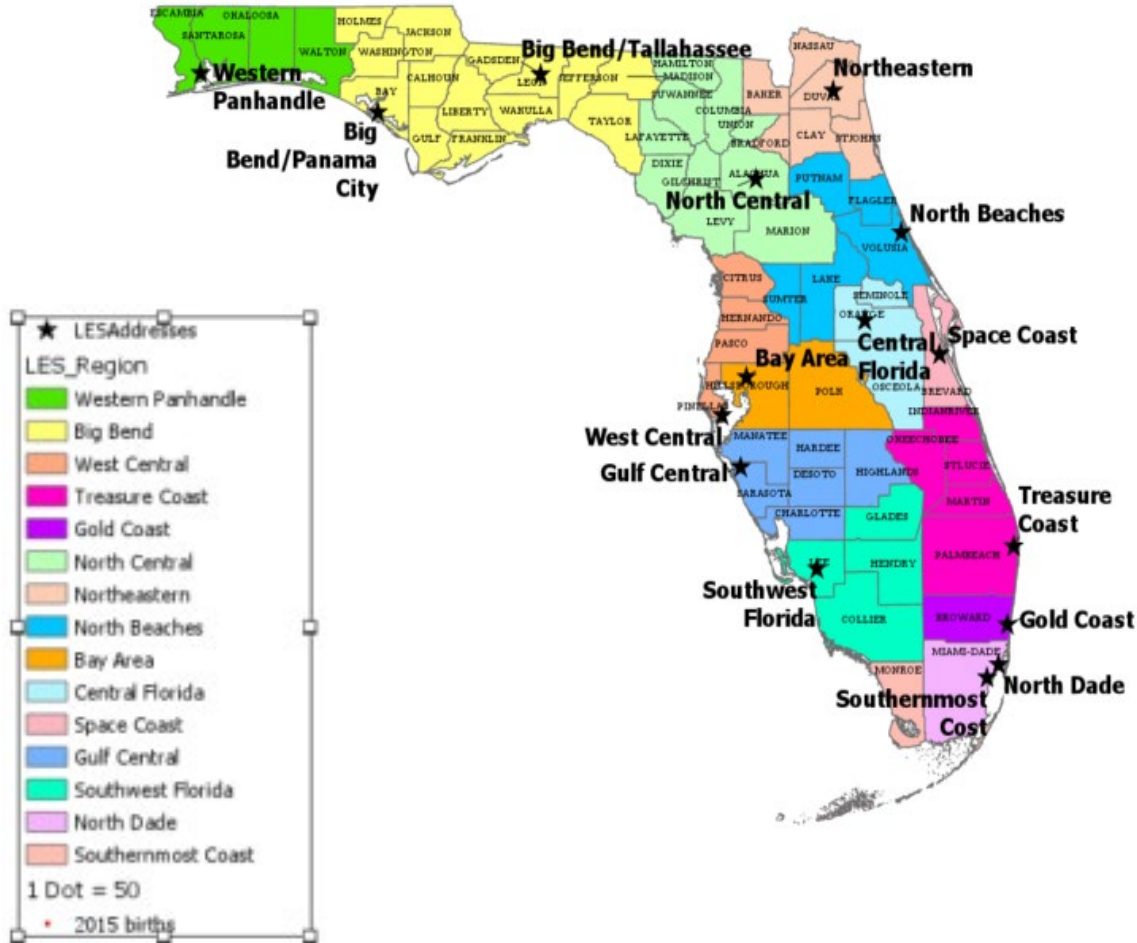
National Comparison for Lost to Follow-up/Lost to Documentation (LFU/LTD)

2016 Florida vs. National

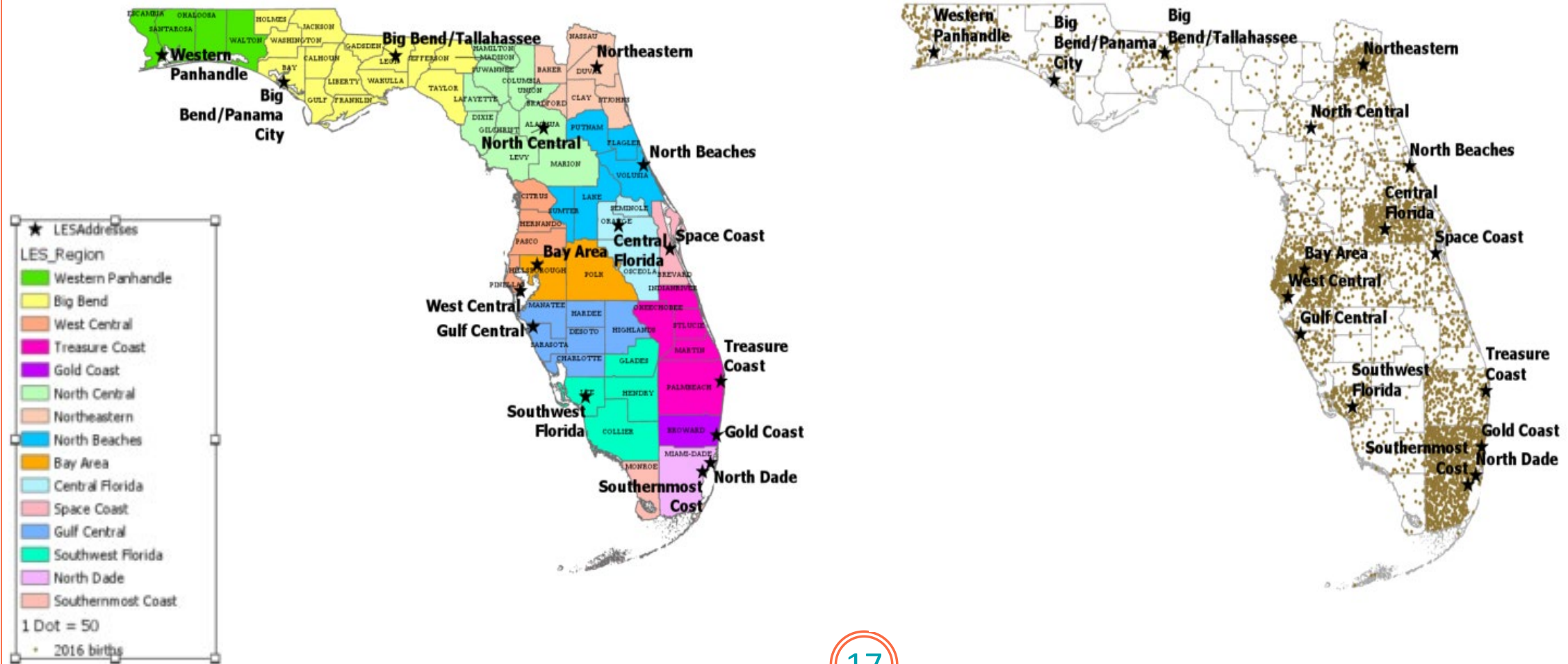
■ Florida ■ National



2015 Population Spatial Distribution



2016 Population Spatial Distribution



Discussion

- Lost to Follow-up/Lost to Determination (LFU/LTD) Rate
 - Stakeholders (reporting to EHDI)
- Early Intervention
 - Lost to Follow-up/Lost to Determination
 - Non-integrated data system
 - Early Steps data workgroup
- EHDI-IS
 - Data system fixes
 - New capability for audiologists to report electronically
- Florida's Geography

Next Steps for Florida EHDI

- Electronic reporting for diagnostic evaluations.
- Needs assessment from stakeholders to highlight gaps within the state. (FSDB)
- Hearing loss follow-up.
- Develop educational materials for the EHDI Program to provide to audiologists.
- Exhibit at audiology and pediatric conferences within the state.
- Partner with universities that offer doctoral programs for audiology.
- Partner with the state licensing boards.



Limitations

- In 2015, Florida's EHDI Information System (EHDI-IS) was not capable of calculating the number of infants diagnosed before 3 months of age due to a software update.
- Early Steps separates Miami-Dade County into two separate service areas for regional service distribution.
- Statistics are specific to Florida, so results are not generalizable. However, the methods can be used to duplicate this type of study for other states/territories.

Conclusions

- Importance of stakeholder involvement in the EHDI process.
- Importance of data quality for improvement of program outcomes
- Use of creative methodologies in practice-based research
- Further research is necessary to examine statistically significant factors that impact EHDI outcomes and geographical trends in the EHDI outcome data.

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Questions?



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